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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/843,939      | 04/30/2001  | Kazutoshi Yasunaga   | P20687              | 9403             |

7055 7590 05/19/2004

GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER

OPSASNICK, MICHAEL N

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2655

DATE MAILED: 05/19/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/843,939

**Applicant(s)**

YASUNAGA ET AL.

**Examiner**

Michael N. Opsasnick

**Art Unit**

2655

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-21 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1,3-18,20,21 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozawa (5826226).

As per claims 1,9,18,20, and 21, Ozawa (5826226) teaches:

“a providing system.....predetermined polarity” as excitation quantization circuit provides a plurality of pulses (abstract, col. 2 lines 29-40) having certain positions (col. 2 lines 55-60); and polarity (col. 12 lines 47-51);

“a storage system.....waveform” as codebook storage storing information for synthesis (col. 11 lines 1-30);

“a convolution system.....modification.....said convoluting system outputting said transformed input vector as an excitation vector.....vector” as convolution calculation (col. 7 lines 4-22) utilizing the codebook (col. 7 lines 22-30).

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As per claim 3, Ozawa (5826226) teaches:

“wherein said input vector is provided from an algebraic codebook” as input vector from algebraic codebook (col. 6 lines 61-66);

As per claim 4, Ozawa (5826226) teaches:

“wherein said input vector.....vector having a plurality of non-zero samples” as input vector having amplitude of 1 (col. 12 lines 44-51).

As per claims 5,14, Ozawa (5826226) teaches:

“said convolution system performs a convolution using .....fixed waveform.....storage system” as convolution calculation using fixed waveforms from storage (col. 7 lines 4-22 -> utilizing the codebook (col. 7 lines 22-30)).

As per claims 6,15, Ozawa (5826226) teaches:

“wherein said convolution system spreads an energy distribution of said input vector over a subframe” as spreading the input vector over the waveform (as in the convolution equation, col. 7 lines 5-18; col. 8 lines 27-30).

As per claims 7,16, Ozawa (5826226) teaches:

“wherein said at least one fixed waveform comprises three different fixed waveforms” as the signal contains at least three distinct components (col. 8 lines 32-36 → equation 14, three different summations)

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As per claims 8,17, Ozawa (5826226) teaches:

“wherein said at least one fixed waveform.....having a different amount of energy spreading” as each summation is weighted depending upon the output of the spectrum parameter calculating circuit (col. 8 lines 27-36).

As per claim 10, Ozawa (5826226) teaches dispersing of the energy distribution (col. 7 lines 5-18).

As per claims 11-13, Ozawa (5826226) teaches spreading the energy distribution from a non-zero sample to a around, adjacent area, and adjacent samples (col. 12 lines 44-51 → showing non-zero samples, and distribution of the energy of the samples – col. 7 lines 5-18)).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 2,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (5826226) in view of Laflamme et al (On Reducing Computational Complexity of Codebook Search.....)..

As per claims 2,9, Ozawa (5826226) teaches a codebook excited LP system, however, Ozawa (5826226) does not explicitly teach the structure of the codebook (sparse structures). However, LaFlamme teaches sparse algebraic codebooks to be used in CELP coders. (Laflamme, col. 1 page 177, introduction, 29-31). Therefore, it would have been obvious to one of ordinary skill in the art of CELP coders to modify the codebook structure of Ozawa (5826226) with sparse algebraic codebooks because it would advantageously improve the searching speed of the codebook structure and therefore produce synthesized speech with less delay (Laflamme et al, page 177, col. 1 lines 26-34).

#### ***Response to Arguments***

5. Applicant's arguments filed 2/26/2004 have been fully considered but they are not persuasive.

On pages 6,7 of applicant's response, applicant's argue that Ozawa convolutes an excitation vector with an impulse response of a synthesis filter. Examiner argues that the final output excitation vector is equation 13, which uses the parameters from equation 10 (which is calculated to minimize the distortion). Furthermore, applicant's argue that the convolution calculation of Ozawa is different from applicant's convolution calculation. Examiner argues that the finer points of the convolution calculation is not claimed; although the claims are interpreted

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in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Examiner suggests further refining of the claim limitations pertaining to the convolution calculation may overcome the Ozawa reference.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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**7. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

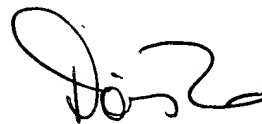
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mno

5/15/2004



DORIS H. TO  
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